

Open Research Online

The Open University's repository of research publications
and other research outputs

Using the Interpersonal Action-Learning Cycle to Invite Thinking, Attentive Comprehension

Book Section

How to cite:

Zimmer, Bob (2008). Using the Interpersonal Action-Learning Cycle to Invite Thinking, Attentive Comprehension. In: Luppigini, Rocci ed. Handbook of Conversation Design for Instructional Applications. Hershey, Pennsylvania, USA: Information Science Reference (an imprint of IGI Global), pp. 264–288.

For guidance on citations see [FAQs](#).

© 2008 IGI Global

Version: Version of Record

Link(s) to article on publisher's website:
<http://dx.doi.org/doi:10.4018/978-1-59904-597-9.ch017>

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online's data [policy](#) on reuse of materials please consult the policies page.

oro.open.ac.uk

Handbook of Conversation Design for Instructional Applications

Rocci Luppigini
University of Ottawa, Canada

Information Science
REFERENCE

INFORMATION SCIENCE REFERENCE

Hershey • New York

Acquisitions Editor: Kristin Klinger
Development Editor: Kristin M. Roth
Assistant Development Editor: Meg Stocking
Editorial Assistant: Jessica Thompson
Senior Managing Editor: Jennifer Neidig
Managing Editor: Sara Reed
Copy Editor: Joy Langel
Typesetter: Carole Coulson
Cover Design: Lisa Tosheff
Printed at: Yurchak Printing Inc.

Published in the United States of America by
Information Science Reference (an imprint of IGI Global)
701 E. Chocolate Avenue, Suite 200
Hershey PA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@igi-global.com
Web site: <http://www.igi-global.com>

and in the United Kingdom by
Information Science Reference (an imprint of IGI Global)
3 Henrietta Street
Covent Garden
London WC2E 8LU
Tel: 44 20 7240 0856
Fax: 44 20 7379 0609
Web site: <http://www.eurospanonline.com>

Copyright © 2008 by IGI Global. All rights reserved. No part of this publication may be reproduced, stored or distributed in any form or by any means, electronic or mechanical, including photocopying, without written permission from the publisher.

Product or company names used in this set are for identification purposes only. Inclusion of the names of the products or companies does not indicate a claim of ownership by IGI Global of the trademark or registered trademark.

Library of Congress Cataloging-in-Publication Data

Handbook of conversation design for instructional applications / Rocci Luppigini, editor.

p. cm.

Summary: "This book presents key perspectives on the evolving area of conversation design, bringing together a body of work focused on the study of conversation and conversation design practices to inform instructional applications. Offering multimodal instructional designers and developers authoritative content on the cutting-edge issues and challenges in conversation design, it is a must-have for reference library collections worldwide"--Provided by publisher.

Includes bibliographical references and index.

ISBN 978-1-59904-597-9 (hardcover) -- ISBN 978-1-59904-599-3 (ebook)

1. Instructional systems--Design. 2. Computer-assisted instruction. 3. Education--Computer network resources. 4. Educational technology. I. Luppigini, Rocci.

LB1028.5.H315 2008

371.33--dc22

2007024484

British Cataloguing in Publication Data

A Cataloguing in Publication record for this book is available from the British Library.

All work contributed to this book set is original material. The views expressed in this book are those of the authors, but not necessarily of the publisher.

Chapter XVII

Using the Interpersonal Action–Learning Cycle to Invite Thinking, Attentive, Comprehension

Bob Zimmer
The Open University, UK

ABSTRACT

This chapter shows how the interpersonal action-learning cycle (IALC) can be used to invite thinking, attentive comprehension from learners in conversation. It explains what the IALC is, where it comes from, how it works, and why. In particular, it offers a logical demonstration that all interpersonal learning takes place within the IALC, and that all competition for dominance lies outside it—suggesting conscious use of the IALC as a desirable practice. The chapter goes on to explore linguistic factors that routinely disrupt use of the IALC, and that can hide its very existence. Strategies for restoring and stabilizing it are offered. Routine use of the IALC can have profound implications for teaching and instruction, collaborative learning, assessment, course evaluation, and professional development. These are explored.

INTRODUCTION: YOUR OWN THOUGHTS

This chapter starts with a form of advance-organizer (Ausubel, 1968). You are invited to think

about instructional design, by considering how you would answer six questions. If you think that you are in the business of meeting learners' needs, you might find these questions startling—they invite you to focus on a need of your own:

Using the Interpersonal Action-Learning Cycle

1. What do you most notice about how learners respond to you?
2. What do you imagine are the reasons?
3. How do you feel about that?
4. What is it that you need, that this feeling suggests?
5. What are you doing as a teacher to meet this need?
6. What responses from learners would help you most in doing so?

Although I cannot hear your thoughts, I imagine that as a teacher you would like to help people learn—so that in answer to Question 6, I imagine that the responses you would find most helpful from learners might be summarized as:

- Their attentiveness toward you
- Their accurate comprehension of what you regard as important, and possibly
- Their own relevant creative thinking

If so, then this chapter is addressed to you. It describes the three learning behaviors above, and presents an argument that just three conversational actions are needed in order to invite them. These

three actions form the interpersonal action-learning cycle (IALC).

The following sections describe:

- Where the IALC comes from and how it works
- What routinely disrupts it
- How in practice it can be sustained

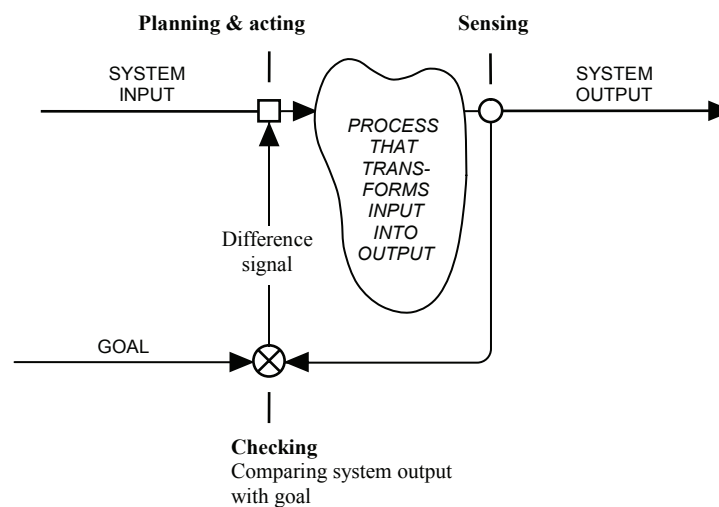
BACKGROUND: WHERE THE IALC COMES FROM AND HOW IT WORKS

The interpersonal action-learning cycle (IALC) results when the generic action-learning cycle is applied to interpersonal communication.

The Generic Action-Learning Cycle

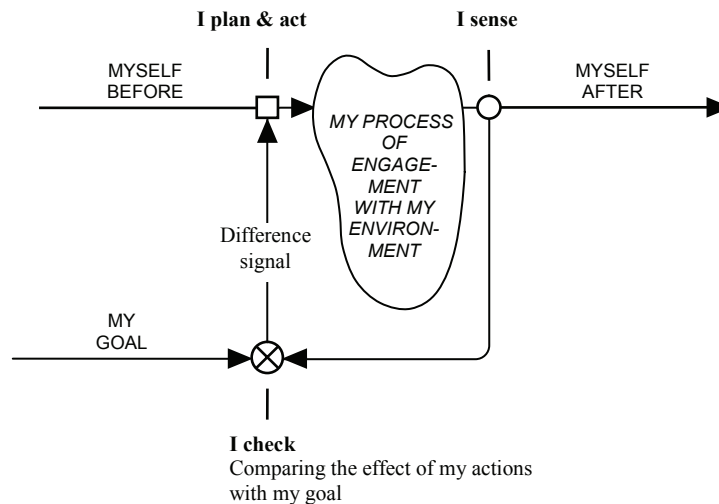
Figure 1 shows the generic control model. Around it are arrayed the actions, ‘sensing / checking / planning & acting,’ which take place respectively at the sensor, comparator, and effector. They take place whenever a goal-oriented process is in play,

Figure 1. The generic action-learning cycle: Sensing / checking / planning & acting



(Scale is set to match Figures 2, 3, and 4)

Figure 2. A subjective form of the generic action-learning cycle



(Scale is set to match Figures 3 and 4)

and they make up the generic action-learning cycle.

The process itself, denoted by the blob in the centre of the diagram, is a transformational process of some kind—it transforms an input into an output.

As time progresses, the output is sensed and then is checked against the goal. The difference between the two is used to plan the action that will be taken, in order to modify the input so that the output will more closely approach the goal. Once the action is taken, the output is sensed again to see how well the action worked—and so on around the cycle. Each time around, both the environment and the actor's capabilities are being learned about.

The Subjective Action-Learning Cycle

Figure 2 shows how the cycle looks when it is made subjective—that is, when I myself do the sensing / checking / planning & acting. The transformation process becomes my engagement with my environment, and the transformation is

from 'myself before' each turn around the cycle to 'myself after.'

A well-known example of this subjective form of the action-learning cycle is Kolb's cycle of experiential learning (Kolb, 1984):

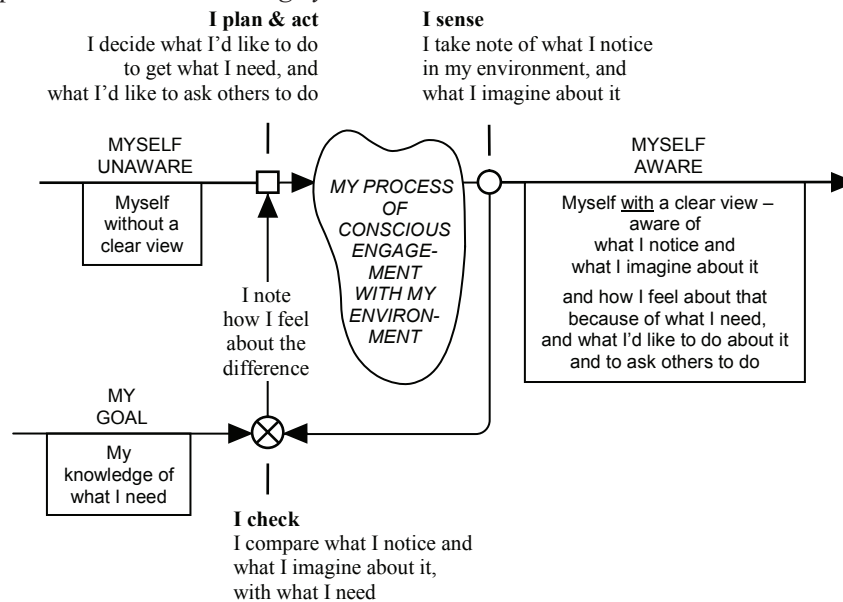
| Subjective cycle | Kolb cycle |
|------------------|---------------|
| I sense | Experiencing |
| I check | Reflecting |
| I plan | Abstracting |
| I act | Experimenting |

The Personal Action-Learning Cycle

Figure 3 shows what happens in addition, when I take conscious note of what I am doing. The cycle becomes my personal action-learning cycle:

- My sensing becomes noting what I notice in my environment and what I imagine about it
- My checking becomes comparing what I notice and imagine with what I need, and noting how I feel about the difference (Hussey, 1980)

Figure 3. My personal action-learning cycle



(Scale is set to match Figure 4)

- My planning & acting become deciding what I would like to do in order to get what I need, and what I would like to ask others to do to help

The output from the transformation process, 'myself after,' then becomes myself consciously aware of:

- What I notice and what I imagine about it
- How I feel about that because of what I need
- What I would like to do about it and to ask others to do

This formulation for capturing my own view has roots in several fields. 'I notice ..., I imagine ..., I feel ..., I want ...' is a standard sequence that is used for clear self-expression in Gestalt psychology (Houston, 1995). Variations of it are used in assertiveness training and in other areas of awareness training.

In addition, the principle that how we feel about what we notice depends on what we need, as in

the second line of the formulation, is a cornerstone of non-violent communication (Rosenberg, 1999). Indeed, it can be argued that not only how we feel, but also what we notice in the first place, depends on what we need—for example, a barn owl's hearing is tuned for the rustle of a vole in the grass, a film-projectionist's vision is tuned for the end-of-reel marker, a mother's hearing is tuned for the cry of her child, and so on.

The three-line formulation brings all of these strands together. It represents a concise way of capturing a clear view.

It also does something else. Traditional writing for instruction often assumes that there is an objective truth to be imparted, and that the author should not intrude. It perpetuates the myth of objective consciousness (Roszak, 1969). This entire paragraph is written in that objectivist style.

By contrast, the formulation above lets me take personal responsibility for what I notice and imagine, so that I can write explicitly from my own perspective—that is, report my own experience—which is the only truth that I actually have. Accordingly, I will be writing the rest of this

chapter in this first-person, I-language (Gordon, 1970, 1974) way.

In my view, one of the most important properties of a view captured in the formulation above is that it never can be in disagreement with another person's similarly-captured view, however different the two views might be. That is, difference does not mean disagreement.

In particular, 'What I notice and what I imagine about it' is a report of my own experience, and it leaves room for someone else's experience to be entirely different. For example, I think that two people in a darkened room describing an elephant by touch are likely to produce very different descriptions, depending on which part of it they are touching. Their views will be different, but they would be mistaken to think that this difference meant disagreement.

Equally, I think that two people looking at a whole elephant—one from the side and one from the front—also will produce very different reports of what they see. Again, their views will be different, but they would be mistaken to think that this difference meant disagreement.

Likewise, 'How I feel about that because of what I need' is also a report of my own experience, again leaving room for someone else's experience to be entirely different from my own. Even, 'What I would like to do about it and to ask others to do' is a report of my own experience, leaving room for someone else's view to be different.

Indeed, so far as I can see, not even my need itself can be in conflict with the needs of other people (Gordon, 1974). The kind of need to which I am referring is not a desire to *do* something in particular, but is always a need *for* something—that is, a basic human need like the need for autonomy, for physical well-being, and so forth. There is an inventory of such basic human needs on the Nonviolent Communication Website (Center for Nonviolent Communication, 2002).

In other words, even when it comes to needs, difference does not have to mean conflict. My favorite way of saying it is that conflict is caused

only by inadequate solutions for meeting people's differing needs (Gordon, 1974). That is, it arises only when people take action to meet their needs, without ensuring that their chosen actions will be beneficial or at least acceptable for other people as well.

The result is that I can use:

- What I notice and what I imagine about it
- How I feel about that because of what I need
- What I would like to do about it and to ask others to do

as a basis for reporting my own view on any topic that I choose, without differences with other views having to cause disagreement or strife.

The Interpersonal Action-Learning Cycle (IALC)

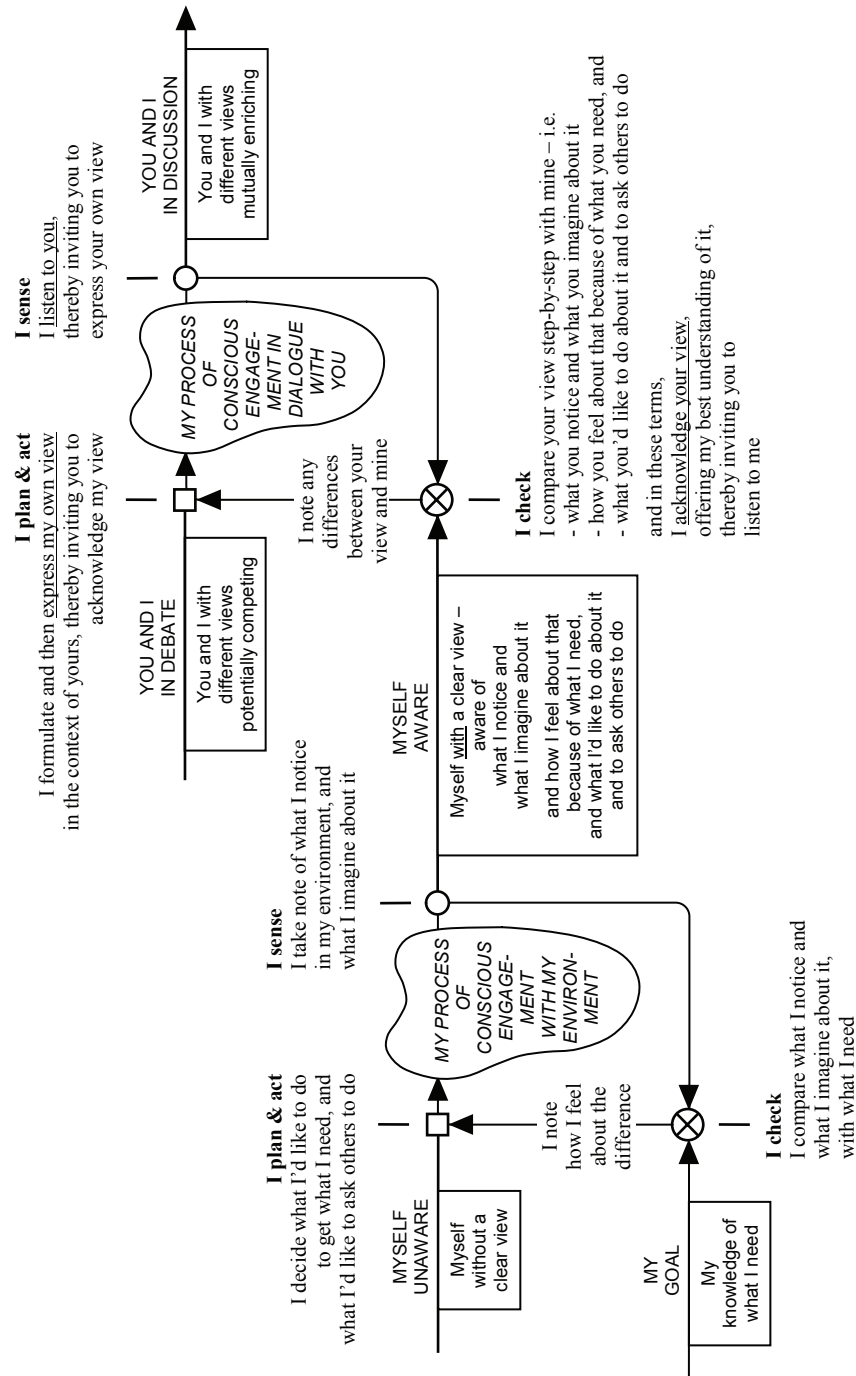
Derivation

Once I am aware of my own view in these terms, I can contemplate engaging in learningful conversation with another person. For simplicity, I will take that other person to be you, the reader.

Figure 4 shows what happens when I use the action-learning cycle to interact with you. The action-learning cycle on the left is my personal action-learning cycle from Figure 3. Its output—my awareness of my own view—then becomes the reference criterion for the action-learning cycle on the right, which is where I engage with you. The result is a form of double-loop learning which transforms my experience of you and myself in potentially competitive debate, into an experience of you and myself in learningful discussion.

In classic double-loop learning (Argyris & Schon, 1978), the question that is asked at the right-hand comparator is, 'How are we doing?' The deeper question that is asked at the left-hand comparator is, 'What is it that we are doing in the first place?' In the more general form of double-

Figure 4. My double-loop learning to engage in learningful discussion with you

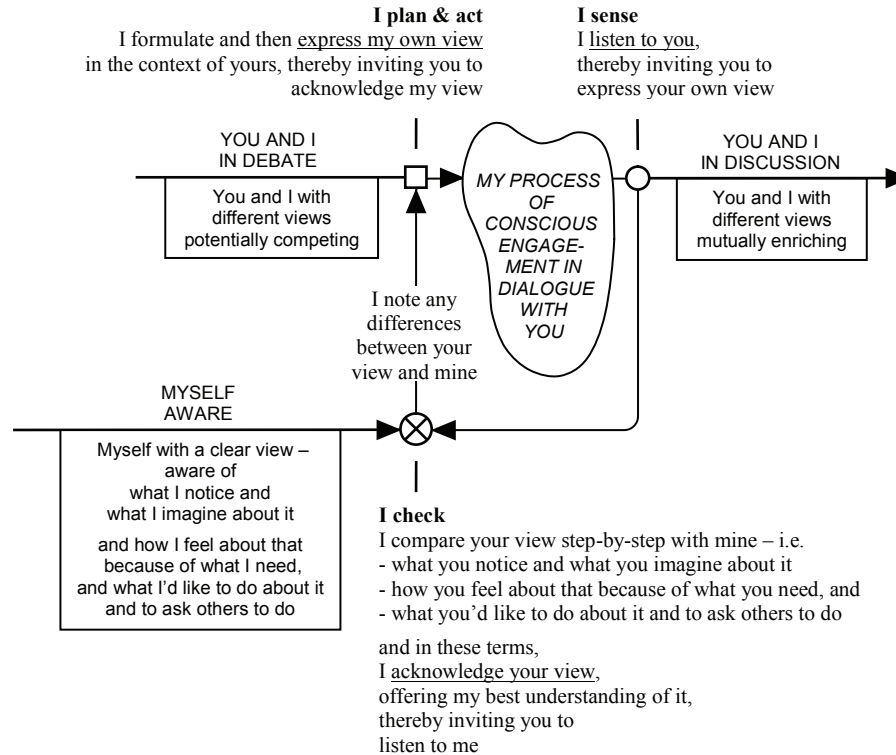


loop learning shown here, the question that I ask at the right-hand comparator is, 'How does your view compare with mine?' The deeper question

that I ask at the left-hand comparator is, 'Can I imagine a way in which my needs will be met?'

The right-hand cycle is what is referred to in this chapter's title as the interpersonal action-

Figure 5. The interpersonal action-learning cycle (IALC)



learning cycle (IALC) (Zimmer, 2004a). It is the cycle that I use to engage with you in learningful discussion. For ease of reference, Figure 5 shows this cycle by itself.

As Figure 5 shows, when I use the action-learning cycle to engage with you:

- My sensing becomes my attentive *listening* to you
- My checking becomes comparing your view step-by-step with mine—that is
 - What *you* notice and what you imagine about it
 - How *you* feel about that because of what you need
 - What *you* would like to do about it and to ask others to do
 which becomes my comprehending *acknowledgment* of your view.

- My planning and acting then become my thinking *expression* of my own view in the context of yours—that is:
 - What *I* notice and what I imagine about it
 - How *I* feel about that because of what I need
 - What *I* would like to do about it and to ask others to do

So these three components together can be summarized as offers of attentive listening, of comprehending acknowledgment, and of thinking self-expression.

You might recognize these three components of the IALC as essentially the three that Carl Rogers identified as the core of successful communication (Rogers, 1959, 1962). Their derivation here from the generic action-learning cycle specifies their operational sequence. An alternative derivation,

from the principle of respect for autonomy, is also available (Zimmer, 2004a).

The third component of the IALC—thinking self-expression—represents a complete ‘I-statement’ (Zimmer, 2004b) made in ‘I-language’ (Gordon, 1970, 1974)—language that is used for expressing one’s own view while leaving room for other views. An offer of the very similar second component—comprehending acknowledgment—is often referred to as ‘active listening’ (Gordon, 1970, 1974).

This means that in using the IALC, I am treating you as a sentient being like myself, so in systems terms I have to make sense of the ways in which you yourself make sense of things. This means that two layers of sense-making (Weick, 1996) are involved, so that I am operating at the level of second-order cybernetics (von Foerster, 1992; Zimmer, 2001) within social cybernetics (Geyer & van der Zouwen, 1998), also known as sociocybernetics (Geyer, 1995; Geyer & van der Zouwen, 2001). A discussion of orders of cybernetics is available in Umpleby (1997).

Dynamics

What I find most interesting about the IALC is that it invites itself in return, as Figure 5 shows,

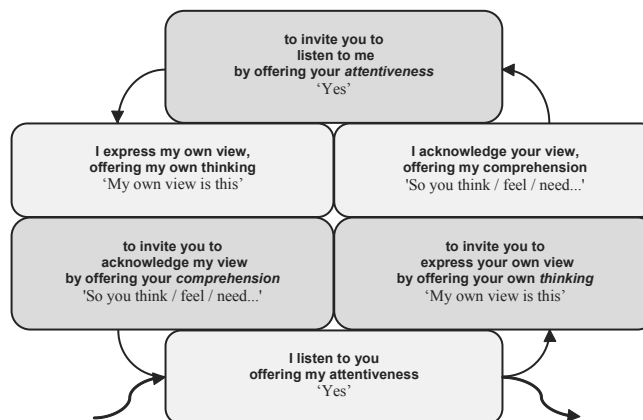
with the three appearances of the word ‘inviting.’ Figure 6 highlights this phenomenon, showing specifically how I can use the IALC to invite your reciprocal use of it.

In more detail:

- I listen to you, offering my attentiveness, my essential response being a receptive ‘Yes’ to invite you to express your own view, that is, to offer your own thinking
- I acknowledge your view, offering my comprehension, my essential response being, ‘So you think / feel / need ...’ to invite you to listen to me, that is, to offer your attentiveness
- I express my own view in the context of yours, offering my own thinking, my essential response being, ‘My own view is this’ to invite you to acknowledge my view, that is, to offer your comprehension

I would emphasize that these essential responses are only schematics—many different wordings are possible, and sometimes they are conveyed by body language alone. That said, the essence of the conversation sounds like this:

Figure 6. How my use of the IALC invites your use of it



| My responses | | Your responses |
|----------------------------------|-----|----------------------------------|
| 'Yes' | ► | 'My own view is this' |
| 'So you think / feel / need ...' | ► | 'Yes' |
| 'My own view is this' | ► | 'So you think / feel / need ...' |
| 'Yes' | ... | ... |

In short, I offer my attentive, comprehending thinking to invite your thinking, attentive comprehension—which is where the title of this chapter comes from.

In so doing, I put my view literally alongside yours, as shown in Figure 6, for mutual enrichment of views and possibly for perception in depth. As Figure 5 shows, this transforms the two of us from yourself and myself in possibly competitive debate, into yourself and myself in potentially collaborative discussion.

In my view, this means that when two people use the IALC together, each does exactly what the other needs—that is, they do not get into a competition for dominance. So I see its use as a sufficient condition for collaborative discussion.

Equally, if I go backwards around the diagram in Figure 6, then once a conversation has got started:

- I cannot listen attentively to you unless I hear your comprehending acknowledgment of what I have already said. Otherwise whatever you are saying will be for me a *non sequitur*.
- I will not have said anything in the first place (i.e., I will not have offered my own thinking self-expression) unless I thought that you were listening attentively to me—which I do not think that you will have been doing...
- unless *you* felt comprehendingly acknowledged by me for what *you* already had said.

And so on.

In my view, this means that once a conversation has got started, use of the IALC is a necessary condition for collaborative discussion. Indeed, communication research has shown that the odds of understanding someone correctly without taking the IALC step of offering one's comprehension for confirmation or correction are only 25% (Nolan, 1987).

So I conclude that use of the IALC is both necessary and sufficient, in order to have a collaborative discussion about any topic.

Implementation

If as a teacher I take responsibility for managing my use of the IALC, then it starts and ends with myself offering my attentive listening—as shown in Figure 6 by the start-finish arrows. This leaves you always free to continue the conversation by offering thinking self-expression of your own views, or to leave—whichever you choose.

This means that in using the IALC, I always go at least one and a third times around it:

- I offer my attentiveness to invite your own thinking
- I offer my comprehension to invite your attentiveness
- I offer my own thinking to invite your comprehension
- I again offer my attentiveness to invite your own thinking

A special case of this invitational process is the e-moderating skill known as 'weaving' (Feenberg, 1989), in which the second step of the cycle—offering my comprehension—is used to gather together the ideas and concerns of several participants, and the third step—offering my own thinking—then is used to 'weave' these together to raise new questions for discussion.

In general, I start by inviting your thinking, because I believe that learning is a sense-making activity—that is, that we cannot learn by

having knowledge poured into us, but need to make sense of things for ourselves. This is the central tenet of constructivism (von Glasersfeld, 1995; Riegler, 2007)—not to be confused with social constructivism (Kukla, 2000). So starting in this way lets me invite not just your attentive comprehension, but your *thinking*, attentive comprehension. I believe that my teaching then will be more successful.

Equally, ending in this way lets me invite not just your attentive comprehension, but your attentive, comprehending, *own thinking*. This is where I get the benefit of your relevant creative thinking, if the course that I am offering is meant to encourage you in that.

This is not, however, necessarily easy to do. The next section describes ordinary behaviors that can stop the IALC in its tracks.

ISSUES: WHAT ROUTINELY DISRUPTS THE IALC

Offering attentive, comprehending thinking to invite thinking, attentive comprehension might seem like common sense. In my experience, however, it is anything but.

Dogma

In order to work, what the IALC needs most from the teacher is careful listening for the learner's view, explicit presentation of the teacher's view, and consistent awareness of the difference between the two. I find that this in turn requires a somewhat unusual use of language—namely, always speaking in such a way as to leave room for differing views.

I find that speaking in this way in the English language can require great skill. The English language at its simplest, presents any view as an objective report, which automatically casts any other view as fallacious. The preceding sentence is an example. I find that this phenomenon results

easily in competition, among people claiming the rightness of their own view and the wrongness of all others. Soon they judge one another inferior, and then they start trying to dominate one another. I see the resulting competitive melee as the exact opposite of the thinking, attentive comprehension that the IALC invites.

For example, suppose that I say to you, 'The cat sat on the mat.' In so doing, I am claiming a tremendous amount of authority. I am saying that I know what a cat is, I know what a mat is, and that there is no doubt whatsoever about what is what and what happened. I am leaving you no room whatsoever to have a different view—a view that could be equally valid. In particular, it might appear from where you are that the 'mat' is not a mat but a shadow on the ground. Who is to say?

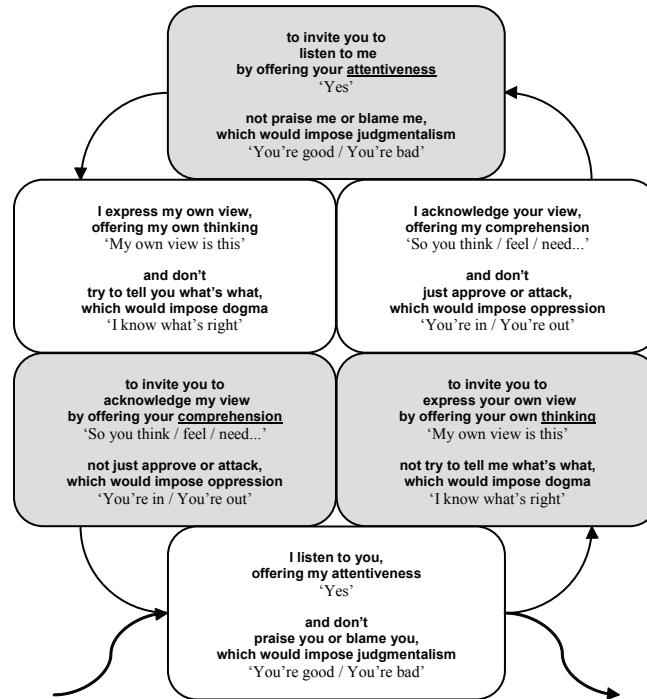
A language like Aymara answers the question of, 'Who says?' within its very structure (Miracle & Yapita, 1981)—i.e. it is not possible to make a statement of 'fact' without also saying, in the very syntax of the statement, whose view that statement represents. But this is not so in English.

Even worse, in a noun-based language like English, I see no way in which a statement can be made about anything at all, without prior agreement between speaker and listener about what things are—for example, about what a cat is and what a mat is.

This problem is not inevitable. In Hopi, for example, there is a syntactic difference between the 'unmanifest' and the 'manifest' (Whorf, 1936; Todd, 2002; David, 2004), which makes it possible to build up a complete picture *before* projecting it onto the world 'out there' (Hussey, 1980). In my view, this kind of linguistic structure makes it much easier to put different views alongside each other, so as to have discussions rather than debates.

In other words, so far as I can see, the very structure of the English language encourages dogma—that is, telling other people what is what and thereby inviting approval or attack, instead of

Figure 7. What I try to avoid doing



expressing one's own views and inviting comprehension. If I were to engage in dogma, it would appear in Figure 7 in the lower half of the white box on the left.

Dogmatic Judgmentalism

It gets worse. Out of dogma can arise dogmatic judgmentalism—that is, praise or blame. This comes from the belief that since I am right about everything and therefore can tell you what is what, if you do not agree with me then I am the victim of your disrespect, and I can blame you for that. Equally, if you do agree with me, then I am the beneficiary of your respect, and I can praise you for that.

The problem that I see with this, is that both praise and blame are ways of passing judgment on you, thereby gaining an upper hand and putting you down.

For example, suppose that I am a scientist conducting an experiment, that my observations

tell me that two events occurred at the same time, and that I declare this as fact. On the other hand, you—conducting a similar experiment—find that the same two events occurred at different times. As it happens, this is perfectly possible if you were in motion relative to me—it is an experimentally corroborated prediction from Einstein's theory of relativity.

But suppose that neither you nor I know about this theory and that you attack my results—as shown in Figure 7 in the lower half of the grey box on the left. If I were to react by indulging in dogmatic judgmentalism—praise or blame—then I could end up blaming you as incompetent. After all, you would be contradicting what I 'know' to be 'true.' Such behavior on my part is shown in the lower half of the white box at the bottom of the diagram.

Equally, suppose that either your experiment or mine is sufficiently sloppy so that our results appear to agree, and you then approve of my results—as shown in Figure 7 in the lower half

of the grey box on the left. ‘Knowing’ that my results are ‘true,’ I then could end up praising you for your work—‘You are good at that’—a very ordinary occurrence. Such behavior on my part also is shown in Figure 7, in the lower half of the white box at the bottom of the diagram.

The trouble is, neither my praise nor my blame lets us explore what has been observed by each of us so that we can arrive at a shared understanding. Both my praise and my blame are opposites to my inviting your possibly differing view. Yet the noun-based structure of English makes it all too easy for me to indulge in them—that is, to depersonalize you and label you as something other than yourself, for example, ‘You are bad’ or ‘You are good’.

Dogmatic, Judgmental Oppression

Worse still, out of dogmatic judgmentalism can grow dogmatic, judgmental oppression. This comes from the belief—because of my presumed ‘knowledge’ of what is what and my consequent propensity to talk down to you with praise or blame—that I have the right to subject you to approval or attack. These are like praise and blame—except that rather than being for what you do, which is bad enough, they are for what I define you to be, which I consider worse. As Maturana has said, ‘If we believe that we have privileged access to knowledge of objective reality, then sooner or later our relationships become demands’ (Maturana, 1997).

For example, in the situation described, suppose that instead of you attacking my results, I attack yours—as shown in Figure 7 in the lower half of the white box on the right. There are several ways in which I might do this, but the most common ways that I have seen, amount to inquisitorial accusation.

I find the inquisitorial part commonplace. It involves probing you, looking for weaknesses, demanding answers about all aspects of your work, and possibly of your character. The messages that

I would be sending you are essentially, ‘Where did you get that idea?’ and, ‘What is wrong with you, anyway?’

I find the accusatory part even more commonplace. It involves reading negligence or malice into you for your disagreement with me—and perhaps even trying to punish you for what I myself have read into you. The essential messages that I would be sending you, answering my own bullying questions from the paragraph above, are, ‘You are careless. You are evil.’—followed by, ‘You are out.’ If done online, this amounts to ‘flaming’ (Kiesler & Sproull, 1992; Shea, 1994).

Equally, in the situation mentioned, suppose that instead of you approving of my results, it is I who approves of yours—again as shown in Figure 7 in the lower half of the white box on the right. Although approval might seem desirable, I see it as oppressive—that is, if I engage in it, then for me it amounts to my putting my imprimatur on a view of your own, that is, my taking possession of something that you have created, saying that it is valid only because I approve of it.

In other words, it is still oppression. The essential messages—representing full dogmatic, judgmental oppression—become, ‘I know what is right. You are good—well done. You are in.’ Yet I will wager that this sounds like a perfectly normal use of English.

As with judgmental praise and blame, and as with dogma before them, I see these oppressive behaviors—approval and attack—as being made possible by the noun-based structure of English, and its consequent ability to depersonalize you and to label you as something other than yourself, for example, ‘You are out’ or ‘You are in’.

In summary, I see dogmatic, judgmental oppression as the diametric opposite of a collaborative exchange of thinking, attentive comprehension. I also see it as the unfortunate norm rather than the exception. I attribute this phenomenon to the noun-based structure of many languages including English—and in my view, it can hide from people the very possibility of non-competitive communication as represented by the IALC.

In particular, I sometimes hear people claim that interpersonal learning takes place during competitive exchanges. From the analysis in the preceding section, in which I found use of the IALC to be not only sufficient but also necessary for collaborative discussion, it is clear to me that whenever interpersonal learning takes place it is entirely due to whatever vestiges of the IALC are present. That is, interpersonal learning takes place not because of any competition but in spite of it.

In other words, I see competition for dominance as wholly inhibitory toward the collaborative exchanges that make up interpersonal learning, as shown in Figure 6 and in the upper halves of the boxes in Figure 7.

As a result, I see development of techniques for restoring and stabilizing the IALC as being of paramount importance. The next section describes the techniques that I have found.

SOLUTIONS: HOW IN PRACTICE THE IALC CAN BE SUSTAINED

In finding ways to restore and stabilize the IALC, the constraint with which I have found it most

difficult to work, is that use of the IALC never can be imposed. In my view, to attempt to impose it would amount to judgmental oppression and would violate the very principles on which it is based. I believe that any such attempt would lead, as with most impositions, to a competition for dominance—thereby destroying any chance of collaborative learning.

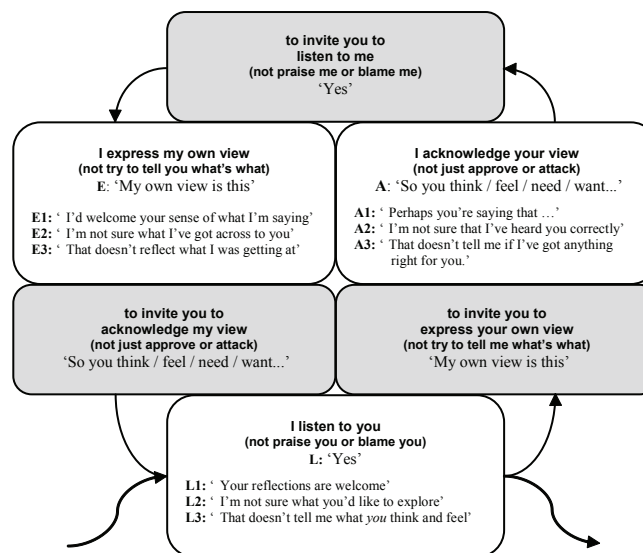
Therefore, so far as I can see, use of the IALC cannot even be initiated by appeals to ‘netiquette’ (Shea, 1994) or to an institutionally enforced code of conduct. Its use can only be modeled and invited.

Within this constraint, however, I have found a number of techniques to be effective. This section describes them and gives examples.

Figure 8 shows the essential responses that these techniques embody. For each stage of the IALC—abbreviated as listening (L), acknowledging (A) and expressing (E)—four responses are offered. The first is the basic response of the stage, which can be used for stabilizing conversation. The remaining three are for responding, respectively, to:

- Silence (first-degree restoration)

Figure 8. My actions to stabilize and restore my conversation with you



- Ambiguity (second-degree restoration)
- Contradiction (third-degree restoration)

I would emphasize that, as the essential messages sent at each stage, these restoration responses also are only schematics. The wording shown for each is just one way of conveying its meaning. The specific wording used in any particular situation is likely to vary—or it might be conveyed by body language alone.

I also would emphasize that, especially for restoration responses, I do not always follow the steps of the cycle in strict order—sometimes iteration seems appropriate.

For the listening stage, the four responses are labeled in Figure 8 as L, L1, L2, and L3. For the acknowledging stage, they are labeled as A, A1, A2, and A3. For the expressing stage, they are labeled as E, E1, E2, and E3. All of the second-degree responses (L2, A2, E2) start schematically with, ‘I’m not sure ...’. All of the third-degree responses (L3, A3, E3) start schematically with, ‘That doesn’t ...’ and continue with an explicit description of the response being invited.

Following is more detail about each of these responses.

The Listening Responses

All of the listening responses invite the other person’s thinking self-expression, which can be summarized as, ‘My own view is this’.

Response L: ‘Yes’

I use this response for ongoing stabilization of a conversation. As a starting point, it gives attention to the other person. As an ending point, it confirms the accuracy of the other person’s comprehension—where the art of using it depends on finding things in the other person’s comprehension that actually can be confirmed.

Response L1: ‘Your reflections are welcome’

I use this restoration response when I hear simple silence in place of self-expression. It

makes no demands, leaving the other person free to respond or not, as he or she chooses. In asynchronous communication, I use it as a standard ending/starting point for inviting further contributions.

Response L2: ‘I’m not sure what you’d like to explore’

I use this restoration response when I hear apparent ambiguity about what the other person’s purpose is. Given that the context is that of learning through discussion, a presumption is built into this response that the other person’s purpose is positive and has something to do with exploration.

Response L3: ‘That doesn’t tell me what you think and feel’

I use this restoration response when I hear outright dogmatism from the other person. It contains an explicit description of the kind of response that is being invited—that is, the other person’s expression of his/her own view.

The Acknowledging Responses

All of the acknowledgment responses invite the other person’s confirmation and attentive listening, which can be summarized as, ‘Yes.’

Response A: ‘So you think / feel / need / want ...’

I use this response for ongoing stabilization of a conversation. In my view, it is the most important response of all—the one that allows the other person to say, ‘Yes,’ whether or not his/her view and mine happen to differ. This is the response that allows me to put the other person’s view alongside my own, so that collaborative discussion can take place.

Response A1: ‘Perhaps you are saying that ...’

I use this restoration response when I have heard the other person as a bit cryptic but I think that I have got the gist. This response normally needs to be completed with some version of Response A.

Response A2: ‘I’m not sure that I’ve heard you correctly’

I use this restoration response when I am not sure what the other person wants to do and why. It can be followed with Response A1.

Response A3: ‘That doesn’t tell me if I’ve got anything right for you.’

I use this restoration response when I hear outright judgmentalism from the other person. It contains, as with Response L3, an explicit description of the kind of response that is being invited. It embodies explicitly the philosophy that only the speaker, not the listener, is in a position to judge whether he/she is being accurately understood.

I would make a note of caution here—I have found that the commonly used wording, ‘I hear you saying ...’ can be heard as patronizing, that is, as not leaving enough room for confirmation or correction. Instead, I use, ‘I hear you as saying ...’—or else I dispense with the ‘I’ altogether, as suggested in Response A.

The Expressing Responses

All of the expressing responses invite the other person’s comprehending acknowledgment, which can be summarized as, ‘So you think / feel / need / want ...?’

Response E: ‘My own view is this’

I use this response for ongoing stabilization of a conversation. This is the response that allows me to put my own view alongside the other person’s, so that both views can be combined for possible perception in depth.

Response EI: ‘I’d welcome your sense of what I’m saying’

I use this restoration response when I have said something that I care about, and have not received any response at all. In asynchronous communication—for example, in online conferencing—I sometimes also use it before inviting further reflections by means of L1, in order to try to ensure that the reflections will be about what I am actually trying to convey.

Response E2: ‘I’m not sure what I’ve got across to you’

I use this restoration response when I have said something that I care about, and the response that I receive does not sound to me like comprehension. If the other person has changed the subject to him/herself, then this response changes it back. If the other person has changed the topic of discussion, then this response changes it back. Yet it does not blame or otherwise judge the other person. It simply refuses to accept absence of acknowledgment.

Response E3: ‘That doesn’t reflect what I was getting at’

I use this restoration response when I hear outright oppression as coming from the other person. As with Response 2, if the other person has changed the subject to him/herself, then this response changes it back; if the other person has changed the topic of discussion, then this response changes it back; yet it does not blame or otherwise judge the other person—it simply refuses to accept absence of acknowledgment.

It also goes further. In describing the kind of response that is being invited, it treats apparent oppression as no worse than a failed but honest attempt at comprehension, and simply refuses any other possibility—on the grounds that it might well be an honest attempt, and that dialogue otherwise is impossible anyway.

Examples

I would emphasize again that these responses are only schematic forms—in actual use, many different wordings are possible. The following six example messages show this effect. Together they display all of the responses defined. They also show how several responses can be used in one message.

These examples are adapted from conference exchanges in which I have participated, within a course on systems practice—a kind of practice for which the ability to handle multiple perspectives is a key skill.

Table 1. Stabilization and restoration responses displayed by each message

| | | Stabilization / restoration responses | | | | | | | | | | | |
|----------------|---|---------------------------------------|----|----|----|---|----|----|----|---|----|----|----|
| | | L | L1 | L2 | L3 | A | A1 | A2 | A3 | E | E1 | E2 | E3 |
| Message number | Standard stabilization | | | | | | | | | | | | |
| | 1 | x | x | | | x | | | | x | | | |
| | Strong listening to invite thinking self-expression | | | | | | | | | | | | |
| | 2 | x | | x | x | | | | | | | | |
| | Strong acknowledgment to invite attentive listening | | | | | | | | | | | | |
| | 3 | x | x | | | x | x | x | | x | | | |
| | 4 | x | x | | | | | x | x | x | | | |
| | Strong self-expression to invite comprehending acknowledgment | | | | | | | | | | | | |
| | 5 | x | x | | | x | | | | | x | x | |
| | 6 | x | x | | | x | | | | x | x | | x |

The six example messages are divided into four sections, as shown in Table 1. The first section contains Message 1, which demonstrates standard stabilization (the shaded columns in the table). This is an example in which I simply listen (L), acknowledge (A), express (E) to add my own view, and then listen again. Since the conferences are asynchronous and I cannot hear anyone's responses immediately, the second listening is the kind that I use in response to silence—that is, first-degree (L1).

The second section contains Message 2, which embodies second- and third-degree attentive listening (L2, L3), in order to invite thinking self-expression very strongly.

The third section contains Messages 3-4, which embody first-, second-, and third-degree comprehending acknowledgment (A1, A2, A3), in order to invite attentive listening very strongly.

Finally, the fourth section contains Messages 5-6, which embody first-, second-, and third-degree thinking self-expression (E1, E2, E3), in order to invite comprehending acknowledgment very strongly.

Standard Stabilization

Message 1

L: *A participant is quoted as noting that ultimately he can see only from his own perspective, and another is quoted as wondering in response how people then can be expected to handle multiple perspectives.*

Hi S and S,

A: I hear you both as feeling stuck at an apparent contradiction.

E: I find a reconciliation of these two views in a simple but careful use of language:

A report of my own perspective can start with:

I see/hear...

A report of my grasp of *your* perspective can start with:

I see/hear *you* as saying...

In other words, my grasp of your perspective is nested within my own perspective.

Example:

I see the tree as moss-covered.

I hear *you* as seeing the tree as clear. (I am looking at the north side, you are looking at the south side...)

Example:

I perceive this animal as snake-like.

I hear you as perceiving this animal as tree-like.
(I am perceiving the trunk of the elephant, you are perceiving a leg...)

L1: I hope this helps. Comments welcome.

Strong Listening to Invite Thinking Self-Expression

Message 2

L: *After I have used a Stephen Covey principle (1989) to suggest that all fights are about who gets to feel understood first, a participant is quoted as asking me what I think of this statement in view of Abraham Maslow's (1943) hierarchy of needs. This sets me up to teach rather than to help him learn, so I change the subject back to himself:*

Hi S,

L2: I can't tell from that, what it is that you'd like to explore.

L3: If you tell me what YOU think about those things, and where any puzzle about them arises for you, then perhaps I can tune in.

Strong Acknowledgment to Invite Attentive Listening

Message 3

L: *When criticism (not to be confused with critique) emerges in the conferencing, and I remind people that the conferences are for learning through discussion, a participant is quoted as dogmatizing that the conferences should be for learning through debate.*

Hi S,

A2: I'm not sure if you are agreeing with me here, or disagreeing.

A1: Perhaps you are saying that you see debate as essential for learning.

A: If so, ...

E: I would say the following.

I take care, as does the course, to distinguish between discussion and debate. In my lexicon, debate is something that is won or lost. It is in there with fights and games (Rapoport, 1960). It is for persuading people to agree. It is based on the idea that someone will be proved right about 'what is going on' or about 'what to do', and someone else will be proved wrong. Therefore I see debate as antithetical to handling of multiple perspectives and therefore as antithetical to learning from other people.

In contrast, I see discussion as putting different views side by side and seeing how they might be combined—that is, as being for shared learning, not for persuading. This means that I see discussion as wholly compatible with handling of multiple perspectives.

So when I said that the conferences are for learning through discussion, I was being precise. I did not mean debate. I did mean discussion.

L1: I hope that this clarification is of help.

Message 4

L: *In the same context, a participant then is quoted as dogmatizing that feedback must be expected. This confuses feedback with criticism—a distinction that the course makes at length (Zimmer, 2004c).*

Hi S,

A2: I'm not sure what it is that you're countering here—I don't hear disagreement with what I was saying.

E: Reports of people's experiences of the course are very welcome. This means reports of what they've noticed, what they imagine about it, and how they feel about that because of what they need—and perhaps what they'd like to do about it and would like help to do.

That is feedback, as defined in the course—in short, what they liked, what they did not like, and what they would change. I find that feedback, unlike criticism, can be learned from and makes improvement possible.

A3: What I was referring to did not sound to me like feedback. I could find no information in it that could guide improvement—which involves saying what’s been got right.

L1: I hope that you find this clarification of use.

Strong Self-Expression to Invite Comprehending Acknowledgment

Message 5

L: *A participant is quoted as owning to a personal hatred of consultants—and then is quoted suggesting in a later message that a reply from me to someone else sounded like a consultant speaking.*

Hi S,

A: From those responses,

E2: I can’t tell what I’ve got across to you.

E1: I’d welcome your sense of what I was seeking to convey in each case—in particular, any way of putting it ...

L1: ... that you think you might have found easier to take in.

Message 6

L: *The same participant is quoted as saying that he believes that he understands—then shows that he does not. He characterizes the IALC as ‘being civil’ and ‘touchy-feely’ and suggests that it cannot be used when something really needs to be done.*

Hi S,

A: I have great sympathy with that position. I think that it often can seem that the more urgent things are, then the more control must be imposed and the more that people must be told what to do.

E: At the same time, it is my own experience that people’s resistance tends to dissolve when they feel understood. This is certainly the case with myself. I also find that their resulting increased co-operation can save a lot of time.

So more and more, I try to remember to start if at all possible by offering my comprehension of their concerns.

E3: This strategy to me is not ‘touchy-feely’.

E: It’s a recognition of my own and other people’s informational needs.

I think that people listen a lot more easily when they hear comprehension of their concerns. I also think that they understand more easily when they hear a personal perspective rather than something purporting to be ‘what is’. In addition, I think that they are more likely to give a personal perspective themselves than to try to tell people ‘what is’, when they feel safe because of good listening. And that is the whole IALC right there.

E3: So it’s not really about being ‘civil’, as you suggest—

E: it’s an information-processing thing.

E1: As usual, I’d welcome your sense of what I’m saying,

L1: and any reflections that you might have on it.

The last two lines above have come to represent for me what is most important about use of the IALC. It invites not just thought, but further thought—so that a learning dialogue can grow.

FUTURE TRENDS: IMPLICATIONS OF THE IALC FOR COURSE DESIGN AND ASSESSMENT

I believe that routine use of the IALC can have profound implications for teaching and instruction, collaborative learning, assessment, course evaluation, and professional development.

Teaching and Instruction

Most traditional teaching and instruction that I have seen consists of dogmatizing—that is, teachers apparently believing that they possess objective knowledge and believing that teaching

consists of imparting this knowledge to course participants. From my point of view, this amounts to telling participants what to think.

I see this even in professional conferences. These often begin with ‘keynote addresses’ that effectively tell paying participants what to think about, instead of polling the participants to find out what they would most like to learn about in the context of the conference title.

Worse, as paying participants increasingly come to see themselves as consumers, it appears to me that they expect to have knowledge delivered to them in this way. That is, they expect to be taught rather than helped to learn—an expectation reinforced by prevailing practice.

I believe that use of the IALC can reverse this trend. It begins with listening for desires instead of talking. And it ends with listening for feedback or further reflections. In so doing, it engenders collaborative learning.

For example, this chapter has been designed to do exactly that. It begins with listening, where the six questions that are asked invite the same thinking reflection that the chapter itself describes:

- What you notice and what you imagine about it
- How you feel about that because of what you need
- What you would like to do about it and to ask others to do

The chapter then describes what I think that your answers will have centered on, and only in that context does it then express what I myself think. Finally, in the Conclusion section, it will end by listening again—it will invite your reflections on what I have said and how I have said it.

Collaborative Learning

The IALC invites itself in return, so its use facilitates collaborative learning between teacher and course participants. In my experience, this engenders a sense of safety for participants.

I have found that when such a sense of safety has been established, mutually supportive learning can emerge (Zimmer & Alexander, 2000), and collaborative discussions then can take off in a very learningful way.

Such discussions often include challenge of ideas. Because the IALC puts support in before challenge (i.e., comprehending acknowledgment before thinking self-expression), personal safety is maintained.

All that I have ever known to stop this process is the tradition of competitive debate—that is, a win-lose situation develops in which people get dismissed along with their ideas. But I have also seen an antidote arise to this loss of collaboration, when course participants themselves understand the IALC well enough to use it consciously themselves. At this point, I find that a learning community can begin to emerge (Zimmer, Harris, & Muirhead, 2000).

If and when knowledge of the IALC—by whatever name—becomes widespread amongst course participants, then I predict that collaborative learning through discussion will become the norm.

Assessment

I know of two main kinds of assessment. The first is teacher-centered, in which the teacher wants to get something about a topic across. The assessment score then measures how well the teacher feels understood. Multiple-choice questions generally are suitable.

The second kind is participant-centered, in which the participant is given space to explore a topic and to put together a case about it. The assessment score then measures how well the participant presents his/her own thinking. Multiple-choice questions generally are *not* suitable.

In my experience, much of traditional assessment confuses these two. It is teacher-centered, in that the teacher wants to get something about a topic across and to be accurately understood about it. So whatever the topic might be, the teacher

is the subject. But then the teacher acts as if the course participant were the subject, and turns the assessment score into a performance rating that bestows praise (or blame) on the participant, for the participant's acquisition (or not) of the teacher's knowledge.

So far as I can see, this is simply dogmatic judgmentalism and does not help either the teacher or the participant to learn.

Use of the IALC undoes this confusion, by always making clear who the subject is—teacher or participant—whatever the topic of conversation. In Figures 6-8, this distinction is represented in each diagram by the difference between the right-hand and left-hand sides.

This puts participant-centered and teacher-centered assessment alongside each other, showing that they are not in conflict with each other. If this realization spreads, I predict that participant-centered and teacher-centered assessment will be used increasingly to complement each other.

I see another benefit as well, in use of the IALC for assessment. It suggests low-maintenance versions of participant-centered assessment.

In particular, since participant-centered assessment is about how well the participant can present his/her own thinking, then in each participant's responses there always will be a personal aspect that is uniquely identifiable to a teacher who knows him/her—meaning that the assessment questions need not be changed from year to year.

So if and when knowledge of the IALC becomes widespread amongst teachers, I predict that the workload involved in assessment will decrease.

Course Evaluation

Traditional course evaluation, so far as I can see, suffers from the same confusion as does traditional assessment. The course participant is invited to lay judgments of praise or blame onto the course or the teacher—that is, 'Rate this course/teacher for...'

I have never known such judgmentalism to provide information that a teacher can use to improve what he/she does.

In contrast, by maintaining clearly the distinction between what is about the teacher and what is about the participant, the IALC invites a report of the participant's experience of the course and its teaching—that is, what the participant liked, did not like, and would change.

In my experience, such feedback does provide information that the teacher can use to improve what he/she does.

So if and when knowledge of the IALC becomes widespread amongst teachers, I predict that the rate of improvement of course material and of teaching will increase.

Professional Development

My own experience of professional development for teachers has included being presented with vast quantities of material that amounted, metaphorically, to a lot of trees but no forest—that is, a lot of detail with no overall pattern.

I have found that to look at such mountains of material in terms of the IALC can be a great aid for making rapid sense of it all. It enables me to see rapidly what supports development of the learning dialogue and what does not.

So I predict that if and when knowledge of the IALC becomes widespread amongst teachers, professional development material will become considerably simplified.

CONCLUSION

I find that cultural and linguistic traditions often favor competition for dominance over mutual support. That is, they substitute dogmatic, judgmental oppression for thinking, attentive comprehension. In so doing, they can play havoc with collaborative learning, both online and face-to-face.

I also find that conscious use of the interpersonal action-learning cycle (IALC) offers a solution. This chapter shows how.

Further ideas about use of the IALC—including its use in this chapter itself—are invited.

FUTURE RESEARCH DIRECTIONS

Figure 9 summarizes the five areas of application of the IALC to instructional design that are discussed in the ‘Future Trends’ section. The areas

Figure 9. Instructional applications of the IALC, discussed in this chapter

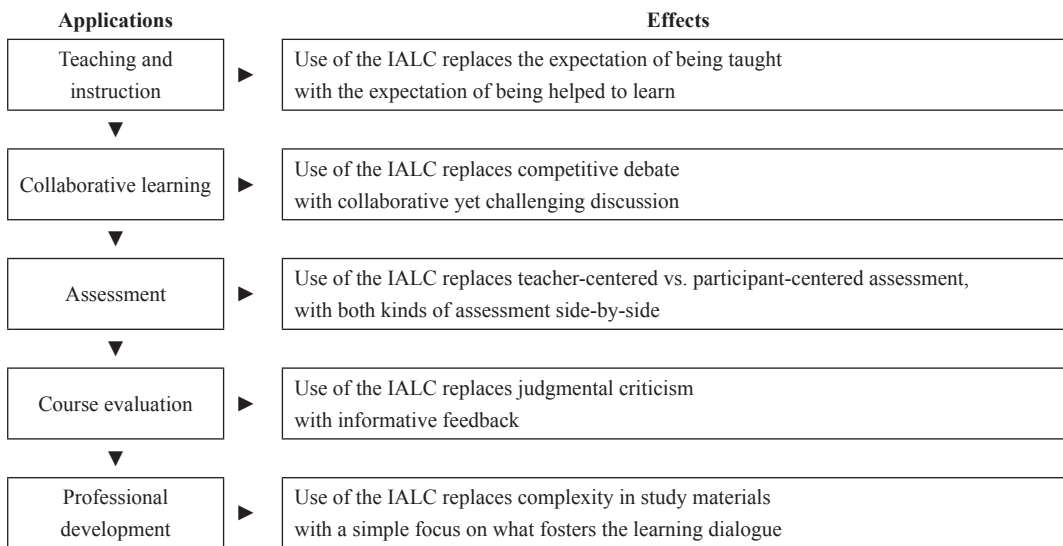


Figure 10. Wider areas of potential application of the IALC, for future research

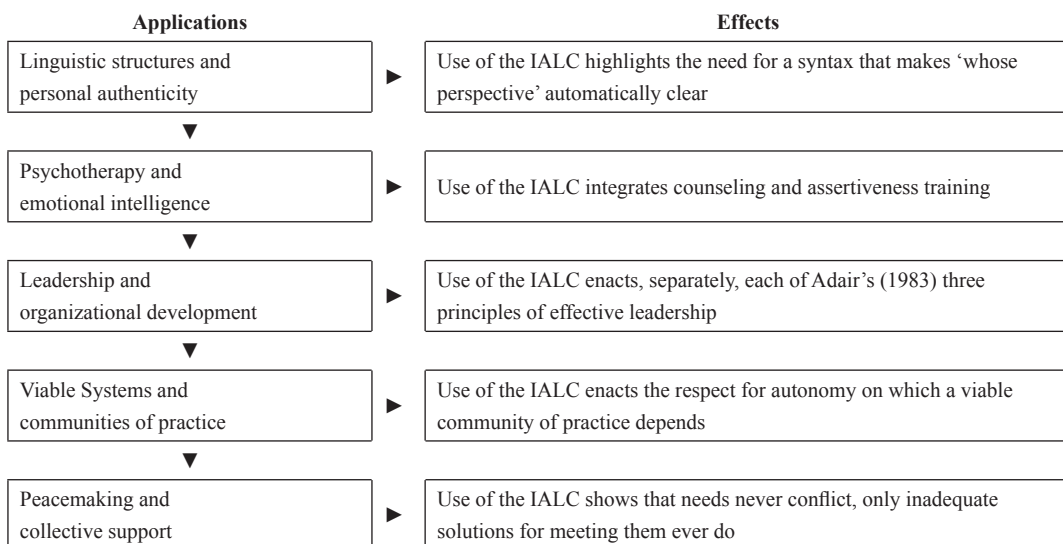
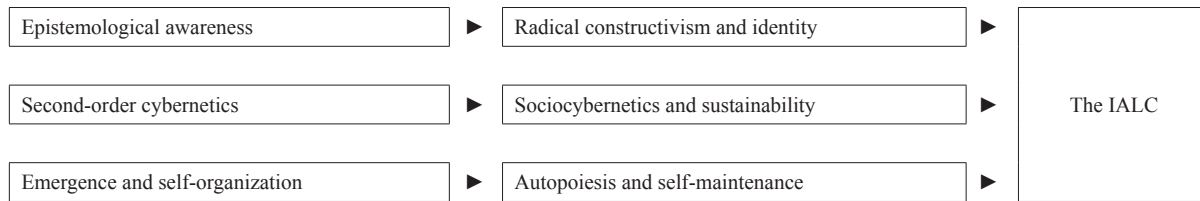


Figure 11. Areas of systemic thinking in which the IALC has its roots



of application are on the left and the effects are on the right. The arrows show the main directions of influence, as I see them.

Figure 10 shows five wider areas of application for future research that I also see. As in Figure 9, the areas of application are on the left, the effects as I see them are on the right, and the arrows show the main directions of influence that I see.

General references for these wider areas of application appear in the 'Additional Reading' section.

In addition to these five wider areas of potential application, I see six main areas of systemic thinking in which the IALC itself has its roots. These are shown in Figure 11. As in Figures 9 and 10, the arrows show the main directions of influence that I see.

Investigation of these roots can lead in principle to deeper versions of the IALC, with correspondingly wider domains of application.

General references for these roots also appear in the 'Additional Reading' section.

REFERENCES

Adair, J. (1983). *Effective leadership: A self-development manual*. Aldershot: Gower.

Argyris, C., & Schon, D. (1978). *Organizational learning: A theory of action perspective*. Reading, MA: Addison Wesley.

Ausubel, D. P. (1968). *Educational psychology: A cognitive view*. New York: Holt, Rinehart and Winston.

Center for Nonviolent Communication. (2002). *Nonviolent communication needs inventory*. Retrieved January 1, 2007, from <http://www.cnvc.org/needs.htm>

Covey, S. R. (1989). *The seven habits of highly effective people*. London: Simon & Schuster.

David, G. A. (2004). *The (Hopi) world according to Whorf: A briefnote*. Retrieved January 1, 2007, from <http://azorion.tripod.com/whorf.htm>

Feenberg, A. (1989). The written world: On the theory and practice of computer conferencing. In R. Mason & A. Kaye (Eds.), *Mindweave: Communication, computers and distance education* (pp. 22–39). Oxford; New York: Pergamon.

Geyer, F. (1995). The challenge of sociocybernetics. *Kybernetes*, 24(4), 6–32.

Geyer, F., & van der Zouwen, J. (1998). *A bibliography of social cybernetics* (3rd ed.). Retrieved January 1, 2007, from <http://www.unizar.es/sociocybernetics/quees/biblio.html>

Geyer, F., & van der Zouwen, J. (Eds.). (2001). *Sociocybernetics: Complexity, autopoiesis, and observation of social systems*. Westport, CT: Greenwood.

Gordon, T. (1970). *Parent effectiveness training: The tested new way to raise responsible children*. New York: Plume Books, New American Library.

- Gordon, T. (1974). *Teacher effectiveness training: How teachers can bring out the best in their students*. New York: Wyden.
- Houston, G. (1995). *The now red book of Gestalt* (3rd ed.). London: G. Houston.
- Hussey, M. (1980). *Private Communication*.
- Kiesler, S., & Sproull, L. (1992). Group decision making and communication technology. *Organizational Behavior and Human Decision Processes*, 52, 96-123.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- Kukla, A. (2000). *Social constructivism and the philosophy of science*. New York: Routledge.
- Maslow, A. (1943). A theory of human motivation. *Psychological Review*, 50, 370-396.
- Maturana, H. (1997, March). *Etymology, biology and humanness*. Three-day workshop given at the Open University, Milton Keynes, UK.
- Miracle, A., & Yapita, J. D. (1981). Time and space in Aymara. In M. J. Hardman (Ed.), *The Aymara language in its social and cultural context* (pp. 35-56). Gainesville: University Presses of Florida.
- Nolan, V. (1987). *Communication*. London: Sphere.
- Rapoport, A. (1960). *Fights, games and debates*. Ann Arbor: University of Michigan Press.
- Riegler, A. (2007). *Radical constructivism*. Retrieved March 30, 2007, from <http://www.univie.ac.at/constructivism/>
- Rogers, C. R. (1959). A theory of therapy, personality, and interpersonal relationship, as developed in the client-centered framework. In S. Koch (Ed.), *Psychology: A study of a science, Volume 3, Formulations of the person and the social context* (pp. 184-256). New York: McGraw-Hill.
- Excerpted in H. Kirschenbaum & V. Henderson (Eds.), *The Carl Rogers reader* (pp. 236-257) (1990). London: Constable.
- Rogers, C. (1962). The interpersonal relationship: The core of guidance. *Harvard Educational Review*, 32(Fall), 416-429. Reprinted in J. Stewart (Ed.). (1977). *Bridges not walls: A book about interpersonal communication* (pp. 240-248). London: Addison-Wesley.
- Rosenberg, M. (1999). *Nonviolent communication: A language of compassion*. Del Mar, CA: PuddleDancer.
- Roszak, T. (1969). *The making of a counter culture*. Anchor.
- Shea, V. (1994). *Netiquette*. San Francisco: Al-bion.
- Todd, J. (2002). *The Hopi environmental ethos*. Retrieved January 1, 2007, from <http://www.sacredland.org/resources/bibliography/todd.html>
- Umpleby, S. (1997). Cybernetics of conceptual systems. *Cybernetics and Systems*, 28(8), 635-652.
- von Foerster, H. (1992). Ethics and second order cybernetics. *Cybernetics and Human Knowing*, 1(1), 9-20.
- von Glasersfeld, E. (1995). *Radical constructivism: A way of knowing and learning*. London: Falmer.
- Weick, K. E. (1996). *Sensemaking in organizations*. Newbury Park, CA: Sage.
- Whorf, B. L. (1936). An American Indian model of the universe. In J. B. Carroll (Ed.), *Language, thought and reality* (1956). Cambridge, MA: MIT Press.
- Zimmer, B. (2001). Practicing what we teach in teaching systems practice: The action-learning cycle. *Systemic Practice and Action Research*, 14(6), 697-713.

Zimmer, B. (2004a). The interpersonal action-learning cycle. In B. Zimmer & J. Chapman, *Supporting autonomy to manage complexity. Block 3, Part 3 of T306: Managing complexity – A systems approach* (3rd ed., pp. 38-48). Milton Keynes, UK: The Open University.

Zimmer, B. (2004b). The complete I-statement. In B. Zimmer & J. Chapman, *Supporting autonomy to manage complexity. Block 3, Part 3 of T306: Managing complexity – A systems approach* (3rd ed., pp. 41-42). Milton Keynes, UK: The Open University.

Zimmer, B. (2004c). Personal feedback v. personal criticism. In B. Zimmer & J. Chapman, *Supporting autonomy to manage complexity. Block 3, Part 3 of T306: Managing Complexity – A Systems Approach* (3rd ed., pp. 60-61). Milton Keynes, UK: The Open University.

Zimmer, B., & Alexander, G. (2000). Using Carl Rogers' communication principles to facilitate mutually supported learning online. In C. Higginson (Ed.), *The Online Tutoring Skills (OTiS) Online Conference*. Heriot-Watt & Robert Gordon Universities. Retrieved January 1, 2007, from <http://otis.scotcit.ac.uk/casestudy/zimmer.doc>

Zimmer, B., Harris, R., & Muirhead, B. (2000). Building an online learning community. In C. Higginson (Ed.), *Online tutoring e-book*. Retrieved January 1, 2007, from <http://otis.scotcit.ac.uk/onlinebook>

ADDITIONAL READING

Argyris, C., & Schon, D. (1974). *Theory in practice: Increasing professional effectiveness*. San Francisco: Jossey Bass.

Back, K., & Back, K. (1982). *Assertiveness at work: A practical guide to handling awkward situations*. London: McGraw-Hill.

Bateson, G. (1973). Pathologies of epistemology. In G. Bateson (Ed.), *Steps to an ecology of mind* (pp. 454-463). London: Paladin.

Buchanan, B. (1997). Assessing human values. *Kybernetes*, 26(6/7), 703-715.

Burton, J. (1972). *World society*. Cambridge: Cambridge Univ. Press.

Capra, F. (1996). *The web of life: A new synthesis of mind and matter*. London: HarperCollins.

Capra, F. (2002). *The hidden connections: Integrating the biological, cognitive and social dimensions of life into a science of sustainability*. New York: Doubleday.

Community Intelligence Labs. (1999). *The knowledge garden: Communities of practice, generative leadership strategies, intellectual capital, knowledge ecology, organizational intelligence and virtual communities*. Retrieved March 30, 2007, from <http://www.co-i-l.com/coil/knowledge-garden/index.shtml>

Espejo, R., & Harnden, R. (Eds.). (1989). *The viable system model: Interpretations and applications of Stafford Beer's VSM*. Chichester: Wiley.

Geyer, F. (1996, August). *The increasing convergence of social science and cybernetics*. Paper presented at the 10th International Congress of Cybernetics and Systems, Bucharest.

Geyer, F., & van der Zouwen, J. (Eds.). (1986). *Sociocybernetic paradoxes: Observation, control and evolution of self-steering systems*. London: Sage.

Goleman, D. (1995). *Emotional intelligence*. New York: Bantam.

Goleman, D. (1998). *Working with emotional intelligence*. London: Bloomsbury.

Gordon, T. (1977). *Leader effectiveness training: The no-lose way to release the productive potential of people*. New York: Wyden.

- Gornev, G. (1997). The creativity question in the perspective of autopoietic systems theory. *Kybernetes*, 26(6/7), 738-750.
- Heylighen, F., Joslyn, C., & Turchin, V. (Eds.). (2001). *Principia cybernetica*. Retrieved March 30, 2007, from <http://pespmc1.vub.ac.be/>
- Luhmann, N. (1990). The cognitive program of constructivism and a reality that remains unknown. *Sociology of the sciences*, 14, 64-86.
- Luhmann, N. (1995). *Social systems* (J. Bednarz & D. Baecker, Trans.). Stanford, CA: Stanford Univ. Press. (Original work published 1984).
- McIntyre, J. (2003). Participatory design: The community of practice (CoP) approach and its relevance to strategic management and ethical governance. *Journal of Sociocybernetics*, 4(1), 1-23.
- Mitchell, C. (1981). *Peacemaking and the consultant's role*. Farnborough: Gower.
- Nolan, V. (1987a). *Problem solving*. London: Sphere.
- Nolan, V. (1987b). *Teamwork*. London: Sphere.
- Rasch, W., & Wolfe, C. (2000). *Observing complexity: Systems theory and postmodernity*. Minneapolis: Univ. of Minnesota Press.
- Satir, V. (1972). *Peoplemaking*. Palo Alto: Science and Behavior Books.
- Scott, B. (2005, July). *Facilitating organizational change: Some sociocybernetic concepts and principles*. Paper presented at the 6th International Conference on Sociocybernetics, Maribor.
- Umpleby, S. (2001). What comes after second-order cybernetics? *Cybernetics and Human Knowing*, 8(3), 87-89.
- van Dijkum, C. & Mens-Verhulst, J. (2002). Sociocybernetics: Going beyond the logic of the social sciences. *International Review of Sociology*, 12(2), 193-200.
- von Foerster, H. (1984). *Observing systems* (2nd ed.). Seaside, CA: Intersystems.
- von Glasersfeld, E. (1979). Cybernetics, experience and the concept of self. In M. Ozer (Ed.), *A cybernetic approach to the assessment of children: Toward a more humane use of human beings*. Boulder, CO: Westview.
- Wenger, E. (1998). Communities of practice: Learning as a social system. *The systems thinker*, 9(5). Retrieved March 30, 2007, from <http://www.ewenger.com/pub/index.htm>
- Whitaker, R. (1993). Interactional models for collective support systems: An application of autopoietic theory. In R. Glanville & G. de Zeeuw (Eds.), *Interactive interfaces and human networks* (pp. 119-35). Amsterdam: Thesis Publishers.
- Whitaker, R. (2001). *Encyclopaedia Autopoietica*. Retrieved March 30, 2007, from <http://www.enolagaia.com/EAIntro.html>
- Yolles, M. (2006). *Organizations as complex systems: An introduction to knowledge cybernetics*. Greenwich, CT: Information Age.